

AMENDMENTS TO THE CLAIMS

1-18. (Cancelled)

19. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping changes with time during playback of the video image.

20. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple said video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is selected randomly from among a plurality of mapping functions pre-stored in a playback unit.

21. (Previously presented) A playback unit, comprising:
an input for receiving an encoded data stream bearing a video image;
a decoder for decoding the encoded data stream; and
means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein
the image is warped by compressing spacing between pixels in one direction and expanding spacing in another direction.

22. (Previously presented) A playback unit in accordance with claim 19, wherein said warping changes upon scene change of said video image.

23. (Previously presented) A playback unit, comprising:
an input for receiving an encoded data stream bearing a video image;
a decoder for decoding the encoded data stream; and
means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein
said warping is defined by a geometric transformation.

24. (Previously presented) A playback unit, comprising:
an input for receiving an encoded data stream bearing a video image;
a decoder for decoding the encoded data stream; and
means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein
said warping is derived by backward warping of a two-dimensional geometric transformation of said video image.

25. (Previously presented) A playback unit, comprising:
an input for receiving an encoded data stream bearing a video image;
a decoder for decoding the encoded data stream; and
means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein
said warping is performed by a three-dimensional transformation of said video image.

26. (Previously presented) A playback unit, comprising:
an input for receiving an encoded data stream bearing a video image;
a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a linear function.

27. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a quadratic function.

28. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a spline function.

29. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream;

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer; and

means for applying a motion vector to pixels of said video image for image transformation.

30. (Previously presented) A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream;

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer; and

means for performing different image transformations in different regions of said video image.

31-61 (Cancelled)

62. (New) A method for processing an audio or video data stream containing digital watermark data, comprising:

utilizing a playback unit for playing out information contained in the audio or video data stream; and

during playing by the playback unit, altering the audio or video information by applying to the audio or video data stream a predetermined mapping function associated with the playback unit to distort the audio or video, wherein

audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units, is distorted and the distortion of the produced audio information can be heard by a listener of the produced audio information or the distortion of the produced video information can be seen by a viewer of the produced video information, and

said video information comprises a video image embedded in a video data stream, and said video image is distorted during playback by a playback unit in accord with the predetermined mapping function by an amount not readily visible to the viewer, but such that a video image produced by combining multiple video data streams reproduced by multiple different playback units is distorted and the distortion can be seen by the viewer.

63. (New) The method in accordance with claim 62 wherein said mapping function changes with time during playback of the video image by a playback unit.

64. (New) The method in accordance with claim 62 wherein said mapping function is selected randomly from among a plurality of mapping functions pre-stored in a playback unit.

65. (New) The method in accordance with claim 64, wherein the image is distorted by the playback unit by compressing spacing between pixels in one direction and expanding spacing in another direction.

66. (New) The method in accordance with claim 62, wherein said mapping function is changed upon scene change of said video image.

67. (New) The method in accordance with claim 66, wherein the mapping function is changed in a first manner within a scene, and is changed in a second manner upon a scene change.

68. (New) The method in accordance with claim 62, wherein said mapping function is defined by a geometric transformation

69. (New) The method in accordance with claim 68, wherein said mapping function is derived by backward warping of a two-dimensional geometric transformation of said video image.

70. (New) The method in accordance with claim 68, wherein said mapping function is derived by a three-dimensional geometric transformation of said video image.

71. (New) The method in accordance with claim 68, wherein said mapping function is linear.

72. (New) The method in accordance with claim 68, wherein said mapping function is quadratic.

73. (New) The method in accordance with claim 68, wherein said mapping function is a spline function.

74. (New) The method in accordance with claim 68, wherein a motion vector is applied to one or more pixels of said video image for image transformation.

75. (New) The method in accordance with claim 68, wherein the mapping function is obtained from a stored table.

76. (New) The method in accordance with claim 68, wherein the mapping function is obtained from a computed table.

77. (New) The method in accordance with claim 68, wherein different image transformations are performed in different regions of said video image.